

AWS WeatherNet Protocol



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Purpose

A school participating in the AWS WeatherNet Program arranges for transfer of data logged through AWS to GLOBE.

Overview

GLOBE schools participating in the AWS WeatherNet Program arrange for their data to be transferred automatically to GLOBE. A special GLOBE Atmosphere Study Site is defined for the school's AWS weather station, and this activates an automatic transfer of their AWS data to the GLOBE database.

Student Outcomes

Students can view data for their school that are continuous and show variations within a day. The data collected include wind speed and direction and pressure thereby supporting a more complete study of meteorology. Students pursue a more extensive set of research investigations.

Science Concepts and Scientific Inquiry Abilities

Science Concepts and Scientific Inquiry Abilities are gained through analyzing the data collected with the weather station. Refer to the *Looking at Your Data* sections of the protocols that correspond to the measurements taken with your AWS weather station for guidance on performing this data analysis. Consult the *Science Concepts and Scientific Inquiry Abilities* listed in the gray boxes for these protocols to learn about the science concepts and scientific inquiry abilities that will be gained.

Time

Approximately 15 minutes

Level

All

Frequency

Once

Materials and Tools

Weather station connected to the AWS WeatherNet Network
Atmosphere Site Definition Sheet

Preparation

Establish AWS WeatherNet system and obtain school ID.

Prerequisites

None



AWS Automated Weather Station Network

Using automated weather stations that record data can allow students to take environmental measurements at much shorter time intervals than collecting data by hand. The large volume of data that can be collected at uniform time intervals allows for the study of weather phenomena that can change quickly (such as wind) and so cannot be monitored through measurements taken with longer sampling periods.



A network of automated weather stations throughout the world collecting and reporting data to a central database would serve as an important resource for studying global weather patterns and tracking weather systems. AWS Convergence Technologies, Inc., operates a large private network of weather stations. An extension of this network is the WeatherNet for Education (www.weathernetclassroom.com), which involves schools and colleges in the study of weather and provides educational tools to aid in this study.



Teacher Support

AWS WeatherNet and GLOBE

AWS WeatherNet allows schools to use weather stations to collect and report atmospheric data. Since the function of AWS WeatherNet is inline with that of GLOBE, it is possible for a school to participate in both programs simultaneously. A GLOBE school that is participating in the AWS WeatherNet may have the data that they collect with AWS transferred automatically to the GLOBE database.

In order to accomplish this the school must define a GLOBE Atmosphere Study Site specifically for their AWS weather station. After this special site definition is completed, the data that the school reports to AWS will automatically be transferred over to the GLOBE database. The school should still continue to take additional GLOBE measurements not covered by AWS and report these to GLOBE.

Defining an Atmosphere Site for AWS Weather Station

To define a GLOBE site for AWS data you will need to complete an *Atmosphere Site Definition Sheet* for your AWS weather station. In addition to the standard information associated with a GLOBE Atmosphere Study Site that is recorded on this *Site Definition Sheet*, you include your AWS School ID.

After the *AWS Site Definition Sheet* is completed the site must be defined online using the Atmosphere site definition page available under the *Atmosphere* section of the *Data Entry* page of the GLOBE Web site. On this page you will need to follow the special instructions for reporting your site as an AWS WeatherNet station. This includes selecting a Thermometer type of "AWS WeatherNet Station" and reporting your AWS School ID to GLOBE.